

Date: November 13, 2000

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To: Bill Smith - Regional Director, Northern Region

From: Thomas (Skip) Sommerfeldt
Fisheries Biologist - Senior, Park Falls

Subject: DRAFT
1999 Lake Survey Summary - Perch Lake, Florence County
(T40N, R16E, sec. 21; WBIC - 590500)
Headwaters GMU

This report is submitted with the approval of Basin Supervisor (GMU Team Leader), Tom Bashaw and Regional Fisheries Expert, Steve AveLallemant. The report was written and work supervised by Thomas (Skip) Sommerfeldt, Senior Fisheries Biologist under the Chequamegon and Nicolet National Forest contract fisheries program.

NOTED: _____
Upper Chippewa Basin Supervisor, Tom Aartila

APPROVED BY:

Fisheries Expert, Steve AveLallemant Date

Headwaters Basin Supervisor, Tom Bashaw Date

Bureau of Fisheries and Habitat Protection Date

cc: Bureau of F & H Prot.
Park Falls DNR (Skip)

USFS S.O. - Sue R.
Woodruff DNR - Bob Young



BACKGROUND INFORMATION

Perch Lake is a small softwater seepage lake in north central Florence County. It is located just north of Highway 70, approximately 12 miles west of the town of Florence. The lake is 51 acres in size and has a maximum depth of 39 feet. Shoreline vegetation consists primarily of upland hardwoods/conifers (80%), with the remaining portion being marsh/bog wetland. Littoral bottom types are sand (30%), muck (25%), rubble (24%), gravel (20%) and boulder (1%). The entire shoreline of 1.6 miles is owned by the US Forest Service and there is no development on the lake. Public access is available only through walk-in trails, coming in from both the east and the south. There are 5 wilderness campsites located around the lake.

Perch Lake does have a rather varied history of fish management activities. Stocking of largemouth bass was first recorded in 1937 and then periodically through 1952. The first fishery survey was conducted in 1969 and consisted of 6 fyke-net lifts in June. The survey found white sucker and perch to be the primary fish species, with smaller numbers of crappie and sunfish. Another fyke-net survey in June 1980 found much the same fishery - primarily white suckers and small yellow perch, with much lesser numbers of black crappie and green sunfish. The 1980 survey report recommended that Perch Lake be considered for chemical treatment. Following treatment, it would then be managed for northern pike, largemouth bass, and bluegill.

After receiving the necessary authorizations, Perch Lake was chemically treated with rotenone on November 2, 1983 to completely eradicate the existing fish populations. Shoreline observations on November 3, 1983 indicated that yellow perch had been the dominant species, followed by white suckers. Green sunfish and largemouth bass were also noted among the dead fish, but in far lower numbers than the perch or suckers.

Restocking of Perch Lake began in the summer of 1984 with the planting of adult largemouth bass and fathead minnows. In addition, 47 adult bluegill were transferred to the lake in April of 1985. Periodic monitoring was conducted through 1988. A project update report (7/20/88) concluded that all three species stocked in Perch Lake (bass, bluegill, fatheads) had experienced successful natural reproduction and survival. Management recommendations included the installation of fish cribs or shoreline tree drops, and the stocking of an additional predator, such as northern pike, to assist the largemouth bass in controlling the increasing bluegill population. Following this, log fish cribs (n = 20) and half-log structures (n = 20) were installed in 1989. Tree drops were apparently not utilized and there was no record of northern pike being introduced.

The current fishery survey was conducted through the Chequamegon/Nicolet National Forest contract fisheries program. It was designed to follow up the past work and monitor the status/recovery of the fish population in Perch Lake. To gather information on the fishery, the survey utilized a summer fyke-net effort in August 1999, using both regular and mini fyke nets. In addition, dissolved oxygen (DO) levels were measured in March of 1997 and 1999.

RESULTS AND SUMMARY

The 1999 survey on Perch Lake found a rather simple fishery of largemouth bass, bluegill, and central mudminnow. The fishery appeared to be well-balanced with the largemouth bass exhibiting good natural reproduction and the bluegill maintaining a good size structure to the population. Due to the gear

restrictions (bass are sampled poorly with fyke nets), only smaller largemouth were collected. They ranged from 1.8 to 4.7 inches in length and exhibited good growth for their first two summers of growth. The young-of-year bass averaged 2.3 inches long late in their first summer of growth and 4.7 inches late in their second. The bluegill population was considered moderate to high in density and the fish experienced slightly below average growth rates (Figure 2). However, the population was maintaining a good size structure, giving a PSD₆ of 80% and a RSD₇ of 10% in the sample from the regular-size fyke nets.

The fishery in Perch Lake had progressed well from what was last found in 1988. The bluegill have firmly established themselves in the lake and are maintaining a good quality population. The largemouth bass have also established a self-sustaining population, although specifics on their density and size structure were unknown. While no adults were captured or observed, it could be inferred that at least a moderate density bass population was present. The good level of natural reproduction and the quality size structure of the bluegill population (few fish in the 3 to 5.5 inch size) were indications of this. No fathead minnows were collected and it could be assumed that the predatory pressure from the bass and bluegill have severely suppressed the species in the lake.

The management goal for Perch Lake should be to maintain the balanced largemouth bass and bluegill fishery. Since northern pike were not found and have not yet been introduced, it is recommended that the species be kept out of the system. With the small size of the lake, its low productivity, and limited forage (pike are notoriously poor predators on bluegill); there exists a high probability of a "hammer-handle" fishery if the species establishes itself in the lake. At present, there were no major management problems and the current harvest regulations were considered sufficient to sustain a quality fishery. Shallow water woody structure was somewhat lacking and the installation of shoreline tree drops should be pursued. In addition, proper riparian management to ensure future natural tree-falls into the lake should be a management objective.

MANAGEMENT RECOMMENDATIONS

1. Manage Perch Lake as a largemouth bass and bluegill fishery. The fishery was considered balanced and no supplemental stocking of any species was needed at the present time. In addition, the current harvest regulation for bass of a 14-inch minimum and 5 daily bag should be adequate to maintain and enhance the bass population. The panfish regulation of a 25 bag and no size limit was appropriate as well.
2. Enhance shallow-water woody cover through the installation of shoreline tree drops. An initial goal of 30 structures is suggested. The Forest or WDNR fish biologist should be consulted prior to selection and placement of the tree drops.
3. Maintain the wild nature of the lake by continuing to limit public access to carry-in only. In addition, no further development should be allowed around the lakeshore and any logging in the area should follow the guidelines for riparian management zones as described in "Wisconsin's Forestry Best Management Practices for Water Quality" (PUB-FR-093 95).
4. Assess the status of the fishery on a periodic basis. Visual observations at spawning time and/or angling should be used to monitor the fishery every two to three years. A summer fyke-net survey should be conducted again in 5 to 7 years.

Perch Lake, Florence County -- 1999 Survey Photos



Access at Perch Lake



Shoreline habitat near the access



Checking mini-fyke net



Some of the nice bluegill

**Figure 1. Largemouth Bass Growth Rates
Perch Lake, Florence Co.**

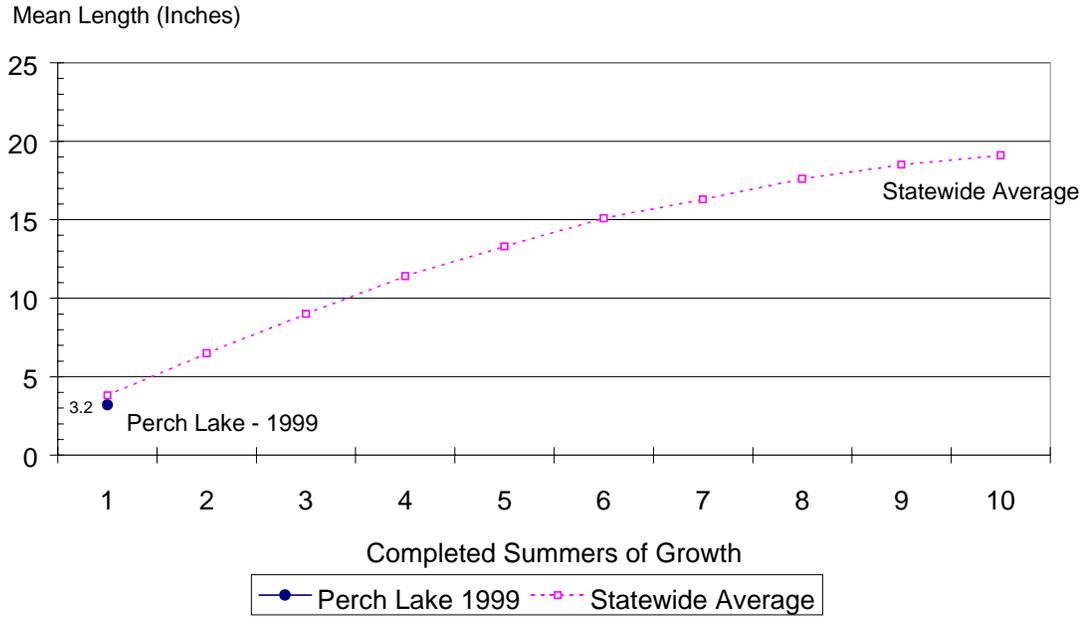
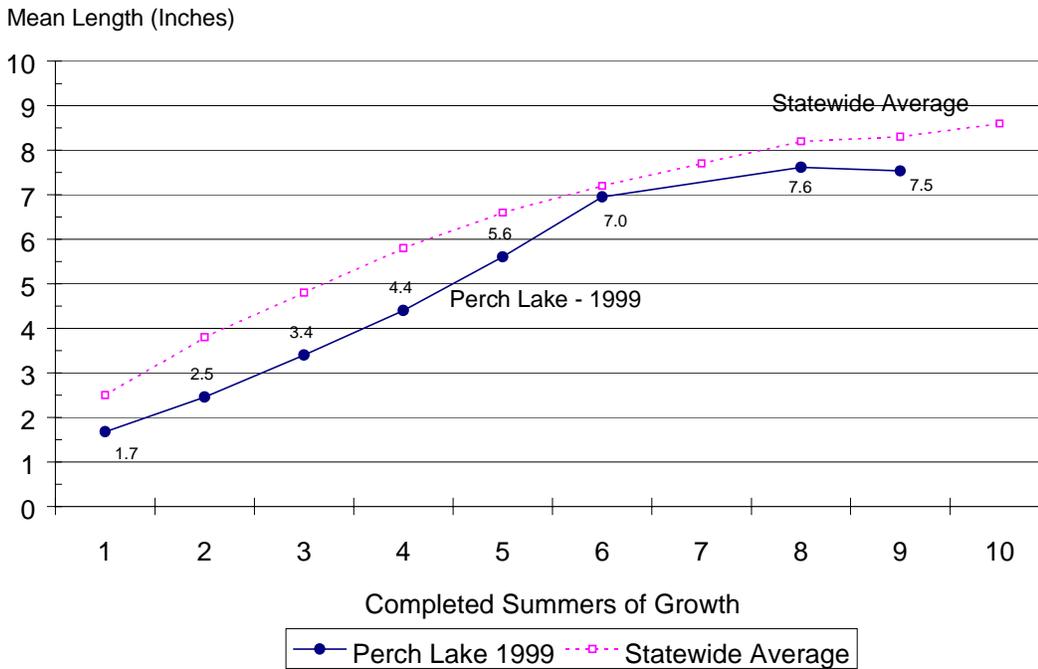


Figure 2. Bluegill Growth Rates - Perch L, Florence Co.



SUMMARY FISHING RECORD

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

FORM 3600-63

REVISED 1-94

COUNTY FLORENCE		WATERS Perch Lake			MWB CODE 590500
SAMPLING OBJECTIVE Summer Panfish Netting		DATES FISHED August 9 - 11, 1999			WATER TEMP. 72 F
GEAR Sommerfeldt/Bunde/Wallner					
BOOMSHOCKER	PANFISH	NO. DIPPERS	NIGHT	AC	
HOURS	GAMEFISH	NO. MILES	VOLTS	AMPS	
	Mini-Fyke Lifts	NO. NETS:	NO. DAYS:		
	Regular Fyke-Net Lifts	LEAD LEN:	FRAME:	MESH:	
GILL NET	(NO. LIFTS)	NO. NETS:	DEPTH:	MESH:	
SEINE	(NO. PULLS)	LENGTH:	DEPTH:	MESH:	
ANGLING	(TOT. HRS.)	NO. ANGLERS:	TIME OF DAY:		
OTHER Difficult access - off of SW corner of lake. ATV to get boat/trailer near lake, then hand carry in.					
FISHING RESULTS					
GAMEFISH	NUMBER	MODAL SIZES (IN.)	SIZE RANGE (IN.)	CATCH/EFFORT	
Largemouth Bass - Reg. Fyke	1		- 4.7	0.5 per net-day	
			-	per net-day	
Largemouth Bass - Mini-Fyke	40	2.1	1.8 - 4.7	10.0 per net-day	
			-	per net-day	
			-	per net-day	
			-	per net-day	
			-	per net-day	
			-	per net-day	
			-	per net-day	
PANFISH	NUMBER	MODAL SIZES (IN.)	SIZE RANGE (IN.)	CATCH/EFFORT	
Bluegill - Reg. Fyke	1040	6.2, 7.1	3.5 - 8.4	520.0 per net-day	
			-	per net-day	
Bluegill - Mini Fyke	262	1.3, 2.2	0.7 - 4.2	65.5 per net-day	
Yellow Perch			-	per net-day	
Rock Bass			-	per net-day	
Black Bullhead			-	per net-day	
			-	per net-day	
Observations: Also found were mudminnow (P), and large tadpoles					

Compiled By: Skip Sommerfeldt	Date 8/12/99
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State of Wisconsin
Department of Natural Resources

Panfish Length Frequency
Form 3600-64 Rev.10-92

County		Water		Date		Gear			
FLORENCE		Perch Lake		8/9-11/99		2 Mini fykes (4 lifts) 1 Reg Fyke (2 lifts)			
Size Range Inches	Species				Size Range Inches	Species			
	Reg. fyke Bluegill		Mini-fyke Bluegill			Reg. fyke Bluegill			
< 1.0		0.7	1		7.0	2			
1.0-1.4		0.8			7.1	13			
1.5-2.0		0.9			7.2	2			
2.1		1.0			7.3	3			
2.2		1.1	1		7.4	1			
2.3		1.2	13		7.5	2			
2.4		1.3	17		7.6	2			
2.5		1.4	6		7.7	2			
2.6		1.5			7.8	2			
2.7		1.6			7.9				
2.8		1.7	2		8.0	2			
2.9		1.8	14		8.1	1			
3.0		1.9	19		8.2				
3.1		2.0	19		8.3				
3.2		2.1	16		8.4	1			
3.3		2.2	26		8.5				
3.4		2.3	17		8.6				
3.5	1	2.4	15		8.7				
3.6		2.5	15		8.8				
3.7		2.6	10		8.9				
3.8		2.7	12		9.0	337	Sub-Total		
3.9		2.8	3		9.1				
4.0		2.9	6		9.2				
4.1		3.0	3		9.3				
4.2		3.1	2		9.4				
4.3		3.2	2		9.5				
4.4		3.3			9.6				
4.5	1	3.4	2		9.7				
4.6		3.5	2		9.8				
4.7	1	3.6	1		9.9				
4.8	1	3.7	3		10.0				
4.9		3.8	1		10.2				
5.0		3.9	3		10.4				
5.1		4.0	1		10.6				
5.2		4.1	1		10.8				
5.3	1	4.2	1		11.0				
5.4		4.3			11.2				
5.5	4	4.4			11.4				
5.6	7	4.5	234		11.6				
5.7	15	4.6			11.8				
5.8	23	4.7			12.0				
5.9	15	4.8			12.2				
6.0	27	4.9			12.4				
6.1	29	5.0	Count		12.6	Count			
6.2	32	5.1	28		12.8	703			
6.3	30	5.2			13.0				
6.4	31	5.3			13.2				
6.5	21	5.4			13.4				
6.6	14	5.5			13.6				
6.7	20	5.6			13.8				
6.8	22	5.7			14.0				
6.9	9	Total	262		TOTAL	1,040			

Notes:

Also found were mudminnow (P) and tadpoles (P).